

WHAT IS CLAIMED IS:

1. A system for maintaining circuit and/or signal characteristics over a range of process, voltage, and/or temperature (PVT) variations in said circuit, comprising:

an input terminal for receiving a data signal from said circuit;

a compensating circuit coupled between said input terminal and an output terminal, said compensating circuit generating a control signal substantially proportional to sensed PVT variations in an output signal at said output terminal; and

a variable output drive coupled to receive said data signal and said control signal, said variable output drive generating a compensation output signal to provide compensation to said output terminal according to said control signal, said compensation output signal maintaining said circuit and/or signal characteristics over said range of PVT variations.

2. The system according to claim 1, wherein said variable output drive includes a delay to provide compensation to said output terminal during state transitions of said output signal at said output terminal.

3. The system according to claim 2, wherein said delay is substantially equal to a propagation delay of said data signal from said circuit, to said output terminal, to the output of said compensating circuit.

4. The system according to claim 1, wherein said compensating circuit senses a rate of voltage change and proportionally varies said control signal according to said sensed rate of voltage change.

5. The system according to claim 4, wherein said variable output drive generates said compensation output signal to maintain, increase, and/or decrease said rate of voltage change at said output terminal.

6. An output circuit for adjusting rise and/or fall times of an output signal, according to sensed process, voltage, and/or temperature (PVT) variations, comprising:

a compensating circuit including:

a feedback circuit coupled to receive said output signal from an output terminal, said feedback circuit generating a feedback signal representative of said sensed PVT variations;

a first PMOS device and a first NMOS device both coupled to receive said feedback signal, said first PMOS device and said first NMOS device generating a rising edge control signal according to said feedback signal; and

a second PMOS device and a second NMOS device both coupled to receive said feedback signal, said second PMOS device and said second NMOS device generating a falling edge control signal according to said feedback signal; and

a variable output drive coupled to receive an input signal from a circuit, said variable output drive including:

one or more output PMOS devices coupled to receive said rising edge control signal to compensate positive transitions of said output signal; and

one or more output NMOS devices coupled to receive said falling edge control signal to compensate negative transitions of said output signal.

7. The output circuit according to claim 6, wherein said compensating circuit further comprises a second feedback circuit generating a second feedback signal, said second PMOS device and said second NMOS device both coupled to receive said second feedback signal.

8. The output circuit according to claim 6, wherein said feedback signal is representative of voltage sensed at said output terminal.

9. The output circuit according to claim 6, wherein said feedback signal is representative of the rate of voltage change sensed at said output terminal.

10. The output circuit according to claim 6, comprising a plurality of compensating circuits that control different legs of said one or more output PMOS and NMOS devices, each of said one or more output PMOS and NMOS devices coupled to different fingers of said variable output drive.